

## Amendments to the Specification

Replace the paragraph beginning on page 11, line 7 with

Referring to Fig. 3, the sensor assembly 210 preferably includes one or more accelerometers 305. The sensor assembly 210 is preferably coupled to the controller 220 by a communication interface 245b. In a preferred embodiment, the sensor assembly 210 includes a first accelerometer 305a, a second accelerometer 305b, and a third accelerometer 305c. In a preferred embodiment, each accelerometer 305 further includes one or more axes of sensitivity 310. The first accelerometer 305a preferably includes a first axis of sensitivity 310a. The first axis of sensitivity 310a is preferably approximately parallel to the z-axis. The second accelerometer 305b preferably includes a second axis of sensitivity 310b. The second axis of sensitivity 310b is preferably approximately parallel to the x-axis. The third accelerometer 305c preferably includes a third axis of sensitivity 310c. The third axis of sensitivity 310c is preferably approximately parallel to the y-axis. The axes of sensitivity 310 are preferably approximately orthogonal to each other. The sensor assembly 210 and the accelerometers 305 are preferably provided as disclosed in one or more of the following: U. S. Patent Application Serial Nos. [[\_\_\_\_\_]] 09/936,634, ~~Attorney Docket No. 14737.739~~, filed on [[\_\_\_\_\_]] September 12, 2001, and Serial No. [[\_\_\_\_\_]] 09/936,640, ~~Attorney Docket No. 14737.737~~, filed on [[\_\_\_\_\_]] September 12, 2001, the disclosures of which are incorporated herein by reference.

Replace the paragraph beginning on page 11, line 25 and ending on page 12 with the following:

Referring to Fig. 4, each accelerometer 305 preferably includes a corresponding application specific integrated circuit (ASIC) 410. Each accelerometer 305 is preferably coupled to the corresponding ASIC 410. The ASIC 410 preferably includes feedback circuitry adapted to provide force balanced feedback to the corresponding accelerometer

305. The ASIC 410 also preferably includes memory for storage of individual parameters for each corresponding accelerometer 305. The ASIC 410 also preferably includes digitization circuitry to provide for a digital output from each corresponding accelerometer 305. The ASIC 410 may be, for example, an analog integrated circuit using analog means to generate feedback and providing analog accelerometer output or a mixed signal integrated circuit using a combination of analog and digital means to generate feedback and providing digital accelerometer output. In a preferred embodiment, the ASIC 410 is preferably provided as disclosed in the following: copending U. S. Patent Application Serial No. [[\_\_\_\_\_]] 09/936,630, ~~Attorney Docket No. 14737.733~~, filed on [[\_\_\_\_\_]] September 14, 2001, the disclosure of which is incorporated herein by reference in order that the ASIC 410 may optimally provide resolution and tilt insensitivity for seismic sensing. The packaging of the accelerometer 305 and the ASIC 410 are preferably provided as disclosed in the following: copending U. S. Patent Application Serial No. [[\_\_\_\_\_]] 09/936,634, ~~Attorney Docket No. 14737.739~~, filed on [[\_\_\_\_\_]] September 12, 2001, the disclosure of which is incorporated herein by reference.

Replace the paragraph beginning on page 12 line 14 with the following:

Referring to Fig. 5, an alternate embodiment of the sensor assembly 210 further includes a monolithic package 505. The first accelerometer 305a is preferably coupled to the monolithic package 505 to maintain the first axis of sensitivity 310a substantially parallel to the z-axis. The second accelerometer 305b is preferably coupled to the monolithic package 505 to maintain the second axis of sensitivity 310b substantially parallel to the x-axis. The third accelerometer 305c is preferably coupled to the monolithic package 505 to maintain the third axis of sensitivity 310c substantially parallel to the y-axis. The axes of sensitivity 310 are preferably approximately orthogonal to each other. The packaging of the accelerometers 305 in the monolithic package 505 is preferably provided as disclosed in the following: copending U. S. Patent Application Serial No. [[\_\_\_\_\_]]

09/936,634, Attorney Docket No. 14737.739, filed on [[\_\_\_\_\_]] September 12, 2001, the disclosure of which is incorporated herein by reference.

Replace the paragraph beginning on page 14 line 21 with the following:

The hydrophone channel 240 is preferably coupled to the controller 220 by the communication interface 245g. The hydrophone channel 240 preferably includes one or more hydrophones. In a preferred embodiment, the hydrophone channel 240 further includes circuitry, such as an amplifier and an analog-to-digital converter, adapted to handle and digitize one or more signals from the hydrophones. The hydrophones may be, for example, any commercially available hydrophone. In a preferred embodiment, the hydrophone channel 240 is spectral shaped as disclosed in the following: copending U. S. Patent Application Serial No. [[\_\_\_\_\_]] 09/913,753, Attorney Docket No. 14737.731, filed on [[\_\_\_\_\_]] November 19, 2001, the disclosure of which is incorporated herein by reference, in order to optimally provide a frequency response matched to the sensor module 105 accelerometers 305.

Replace the paragraph beginning on page 19 line 25 with the following:

The fabrication of the sensor assembly 210 with a vector fidelity uncertainty less than about 1% is preferably provided as disclosed in the following: copending U. S. Patent Application Serial No. [[\_\_\_\_\_]] 09/936,634, Attorney Docket No. 14737.739, filed on [[\_\_\_\_\_]] September 12, 2001, the disclosure of which is incorporated herein by reference.

Replace the paragraph beginning on page 20 line 15 with the following:

The feedback control circuit and the operation of the feedback control circuit are preferably provided as disclosed in the following: copending U. S. Patent Application Serial No.

[[      ]] 09/936,630, ~~Attorney Docket No. 14737.733~~, filed on [[      ]] September 14, 2001, the disclosure of which is incorporated herein by reference.

Replace the paragraph beginning on page 32 line 15 with the following:

In step 2005, the first accelerometer 305a may be operated in any of the accelerometer's available operating modes. The first accelerometer 305a preferably generates output signals containing information pertaining to the stability of the first accelerometer 305a during operation. The stability of the accelerometers 305 is preferably provided as disclosed in the following: copending U. S. Patent Application Serial No.

[[      ]] 09/936,630, ~~Attorney Docket No. 14737.733~~, filed on [[      ]] September 14, 2001, the disclosure of which is incorporated herein by reference.

Replace the paragraph beginning on page 39 line 27 with the following:

Referring to Fig. 25, another embodiment of a method 2500 for determining the state-of-health of the accelerometers 305 includes: (1) operating the accelerometers 305 in step 2505; and (2) analyzing an output signal for offset and status indicating gravity cancellation magnitude in step 2510. The calculation of gravity cancellation magnitude of the accelerometers 305 is preferably provided as disclosed in the following: copending U. S. Patent Application Serial No. [[      ]] 09/936,630, ~~Attorney Docket No. 14737.733~~, filed on [[      ]] September 14, 2001, the disclosure of which is incorporated herein by reference.

Replace the paragraph beginning on page 41 line 1 with the following:

In step 2605, the accelerometers 305 of the sensor module 105 are preferably operated. The accelerometers 305 are preferably operated such that they calculate the magnitude of the gravity field in which they are operating. The calculation of the magnitude

of the gravity field of the accelerometers 305 is preferably provided as disclosed in the following: copending U. S. Patent Application Serial No. [[\_\_\_\_\_]] 09/936,630,  
~~Attorney Docket No. 14737.733~~, filed on [[\_\_\_\_\_]] September 14, 2001, the disclosure of which is incorporated herein by reference.